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Study: Mariculture offers economic benefits for India's coastal regions

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By Responsible Seafood Advocate

Mariculture using cage farming, seaweed cultivation and IMTA could lead to 'decent income' for India's coastal people

Mariculture has emerged as a promising business opportunity for India's coastal regions, according to a new study by the ICAR-Central Marine Fisheries Research Institute (CMFRI).

The study, which was published in **Frontiers in Sustainable Food Systems** (<https://www.frontiersin.org/articles/10.3389/fsufs.2023.1078314/full>), examined the social, environmental, technical and economic aspects of 159 mariculture units such as cage farming, seaweed cultivation and integrated multi-trophic aquaculture (IMTA) in six coastal states including Kerala. The researchers concluded that mariculture could offer a decent income to the coastal people, even as extreme weather events like cyclones are leading to the reduction of fishing days every year.

In particular, cage fish farming in the open sea and coastal waters could yield an additional income of up to Rs. 3 lakhs (U.S. \$3,600) per unit. The innovative practice of IMTA, which combines mussel or seaweed cultivation with cage fish farming, was found to generate even higher profits of Rs. 3.25 lakhs (\$3,900) per unit.



Mariculture offers a “bright business prospect” for India’s coastal region, according to a CMFRI study. Photo courtesy of CMFRI.

Kerala exhibited higher profitability in coastal water cage farming compared to other coastal states, with nearly 40 percent of such units in the state generating an income ranging Rs. 2 lakhs to 3 lakhs (\$2,400 to \$3,600) per season.



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The study also highlighted that mariculture augmented employment and gender inclusion among the coastal communities across the country. Marine cage farming and the IMTA generated 175-396 person-days of employment from one unit in a season lasting around eight months.

Seaweed cultivation along potential farming sites was also found to be “highly prospective,” given the increasing demand for seaweed-based products for culinary purposes and pharmaceutical and other industrial uses.

The study also identified challenges in the sector, including the scarcity of quality seed and feed. Less than 50 percent of farmers received good-quality seed for culture. Limited access to institutional credit to meet capital and operational costs were also reported as major constraints for the sector. Moreover, lead researcher Dr. Shinoj Parappurathu said that the lack of legislative provision “puts this prospective sector under the shadow of uncertainty, ultimately hindering large-scale business plans in mariculture.”

“Adequate legislative mechanism is required to ensure legitimate access for farmers to open water bodies,” said Parappurathu, who is a senior scientist at the CMFRI. “Respective state governments should intervene to provide this protection to farmers so that production could be augmented.”

[Read the full study \(https://www.frontiersin.org/articles/10.3389/fsufs.2023.1078314/full\)](https://www.frontiersin.org/articles/10.3389/fsufs.2023.1078314/full).

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